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ABSTRACT

As a proportion of the labor force or of professional workers, Asian-Americans have always been under represented as teachers in elementary and secondary schools. While the number of Asians going to college and graduating is much higher than the norm for the whole population, four variables are of particular importance in explaining the shortage of Asians in precollege teaching: cultural and language barriers, occupational orientation, immigration status, and racial discrimination. Higher educational attainment and achievement in science and mathematics help Asian college graduates obtain jobs with higher pay and greater prestige than teaching. This paper discusses those variables in the light of career choices by Asian-Americans, pointing out the differences between the cultural attitudes among minority groups and explaining why these attitudes influence Asians to enter vocational fields other than teaching. Recommendations are made for attracting minority students to teaching. Data gathered in the study are displayed in tables and graphs. Extensive references are included.(JD)

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The Underrepresentation of Asian-American Teachers in Elementary and Secondary Schools: Patterns, Causes, and Recommendations.

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(We are grateful for the advice of Everett S. Lee in preparation of this paper)

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The Underrepresentation of Asian-American Teachers in Elementary and Secondary Schools: Patterns, Causes, and Recommendations.

The long-term shortage of minority teachers in the United States has increased dramatically since the late 1970s. In 1980 minorities constituted nearly 25% of the students in elementary and secondary schools, but only 15% of the teachers belonged to minority groups (See Table 1). By 1986 the proportion of minority students had grown to 30%, but the proportion of minority teachers had shrunk to less than 10%. Current projections suggest further increases in the proportion of minority students and further decreases in the proportion of minority teachers (CFEE & TFTP, 1986; Rodman, 1985).

This means that the teaching profession is becoming more ethnically homogeneous and less able to provide adequate role models for the diversity of cultural and ethnic representation in our society (Hanes & Hanes, 1987). The situation worsen. The decline in Hispanic and Asian teachers will lead to a general shortage of immigrant teachers. Demographic projections (Education Week, 1986) for the year 2000 indicate that as much as 15% of the students will be immigrants who speak no English. This makes the declining number of teachers from linguistic minorities is ever more serious.

The effects of such contrary trends are considerable. How teachers perceive students is affected by their own ethnicity, as are teacher attitudes and behavior toward students of different groups. These, in turn, affect student performance(Bikson, 1974; Carter & Segura, 1979; Griffith & London, 1980; Guskin, 1970; Irvine, 1988). Minority teachers are

important as role models for minority students (Coleman, 1966; Matute-Bianchi, 1986). They also serve as cultural brokers for immigrant students, assisting in the adjustment to the educational system and assimilation into American society. Without teachers who understand the cultures of their students and recognize differences among them, student difficulties in education are intensified (Brittan, 1976; Grant, 1988; Haynes, 1971; Lewis, 1980; Ogbu, 1974; Verma & Mallick, 1981;). Despite frequent discussion of the shortage of minority teachers, little research has been done on the shortage of teachers in particular ethnic groups. None focuses on Asian-American teachers, who are generally placed in the group of "Others" and therefore ignored. Data on Asian-Americans are lacking or mixed with material on American Indians and Alaskan Natives.

Data and Analysis

In exploring the patterns and causes of the shortage of Asian-American teachers in elementary and secondary schools, we use data from the 1970 and 1980 censuses, a Current Population Survey: the Public Use Tape File of 1981, and a Current Population Report of 1988. These are supplemented by more recent data from the U.S. Department of Education and other national educational organizations.

In this paper "teacher" refers to elementary and secondary school-teachers. In censuses it refers to teachers in both private and public schools, but in data published by educational organizations, it often refers only to public schoolteachers. Although we prefer to use data based on uniform definitions, the shortage of pertinent material precludes this. We are left with data from a variety of sources, and we must make allowances for differences in definition and in sampling variation.

Background

The Asian population in America numbered 1.4 million in 1970 and 3.5 million in 1980. At that time Asian-Americans constituted 1.7% of the total population. By 1990 the Asian-American population will exceed 7 million and account for 3% of all Americans (U.S. Bureau of Census, 1988). Much of this growth can be attributed to immigration. There has been a dramatic increase in the number of Asians migrating to the United States. Census data for the last two decades show that over 80% of Asian Americans are either foreign born, first-generation immigrants or native born of foreign parents, second-generation immigrations. Half of Asian-Americans are foreign born--the highest proportion for any minority group listed in the census of 1980 (Rong, 1988). For some nationalities the percentages of first- and second-generation immigrants was extremely high: Chinese, 91%; Koreans, 95%; and Filipinos, 96%. Over 80% of Asian-Indians are foreign born. In addition to racial discrimination and economic barriers faced by all minority students, linguistic and cultural barriers pose spacial problems for these immigrant youths. Indeed, the cultural gap may be greater for Asian than for Hispanic immigrants, because Asians may represent greater cultural and linguistic diversity.

Since the spring of 1975, nearly 700,000 refugees from Southeast Asia have settled in the United States. Despite many outstanding successes, not all Asian-Americans have realized the American dream. Many of the refugees from Southeast Asia are uneducated and rural and have had no exposure to urban or Western culture (Bowler, Ranch & Schwavzer, 1986; Gondon & Friedenberg, 1988). Non-Asian teachers may misperceive or mislabel the varying characteristics of this heterogeneous group as deficits, and

seriously underestimate their potentials. In addition, Asian teachers may be more acceptable and trusted by Asian parents than teachers with other racial backgrounds (Rundall & Hernandez, 1986).

This influx of Asian immigrants does have potential benefits. Americans worry about U.S. competence in technology and business; many are alarmed by student performance in science and mathematics. Mathematics and science assessments of U.S. students were conducted by National Assessment of Educational Progress(NAEP) in 1969-1970, 1972-1973, and 1981-1982. From 1973 to 1982, mathematics performance declined for high school seniors, and science performance declined for all age groups (U.S. Department of Education, 1986). American students score at the bottom in almost all international tests in mathematics and science (Educational Testing Service and U.S. Dept. of Education, cited in Atlanta Journal, Feb 1 1989; U.S. Department of Education, 1986). The number of college students majoring in mathematics and science as well as in mathematics or science education is declining at a time when many of the teachers in these fields are leaving for positions outside education (Reed, 1986). The shortage of qualified mathematics and science teachers is one of the most pressing problems faced by American schools today (Rodriguez & Rodriguez, 1986). However, for whatever social, economic, or political reasons, Asians have traditionally done well in these fields (Hirschman & Wong, 1986; Lee & Rong, 1988; Time, 1985). Their abilities and talents could make a difference in changing the topsy-turvy situation of science and math education in the United States.

Beside the technological competition from East Asian countries, these countries are also emerging as the dominant trade partners of the United States. American educational system is thus forced with the need to impart

to all students a cultural sensitivity to the nations of Asia and the Asians in their midst (Wong, S., 1985). Asian-American teachers are most likely to meet this responsibility better than others.

Although no national statistics have been gathered to support the claim that Asian-American teachers are doing well in schools, such data do exist on the local level. According to Rundall and Hernandez (1986), Asian-American teachers in Southern California are truly outstanding. They found no average or below average Asian-American teachers. All prepared well, taught well, and followed through well.

The Urgency of the Shortage

As a proportion of the labor force or of professional workers Asian-Americans have always been underrepresented as teachers in elementary and secondary schools. Table 1 shows that in 1970 Asians accounted for 0.8% of the American labor force, but only 0.6% of the teaching force. In 1980 the percentage of Asians in the labor force had risen to 1.6. Asian-Americans accounted for the same percentage of persons aged 3-17, but only 0.9% of teachers were Asian-Americans. Since 1980 the disparity of proportions between Asian teachers and Asian pupils has been further aggravated. In 1987 Asians comprised about 3% of the population of 3-17 year old but the percentage of Asian- American teachers remained at less than 1%. If Asians had been as likely to choose teaching as a career as individuals in the general population, there would have been three times as many Asian American teachers. However the proportion of Asian teachers in public elementary and secondary schools is slightly less than in private schools (U.S. Department of Education, 1988).

A report of education majors in the Digest of Education, 1988 (U.S. Department of Education, 1988) and a survey of secondary education programs (American Association of Colleges for Teacher Education, 1987) suggest little change in future recruitment of Asian-American teachers. Department of Education data for 1984-1985 indicate that Asians received 2.7% of degrees conferred at all levels of higher education, but only 1% of those receiving degrees in education were Asians (See Table 2). Asian-Americans accounted for 3.7% of all enrolled college students (see Table 3), but only 1.4% of those in training to be secondary schoolteachers are Asians (American Association of Colleges for Teacher Education, 1987).

Patterns of Shortages Among Ethnic Groups

Although the shortage of Asian-American teachers resembles that of minority teachers in general, the pattern of shortage for Asian-Americans is different from that for blacks and Hispanics. These differences may suggest a workable policy for recruiting Asian-American teachers in the short term.

Blacks and Hispanics are not only underrepresented among primary and secondary schoolteachers but in higher education and professional occupations as well. Blacks and Hispanics in the United States are less likely to finish high school and of those who do relatively few go on to college. Table 3 shows that whereas the number of Asian-Americans enrolled in college increased by 50% between 1980 and 1986, the number of blacks decreased by 6%. In other words there were 26,000 fewer black college students in 1986 than there had been 6 years earlier. This is related to the general lower educational attainment of blacks and Hispanics in the United States(See Table 4).

The lack of Asian-Americans in precollege teaching occupations cannot be explained in this manner. Table 1 shows that Asians are overrepresented on college faculties and in other professional occupations. In 1970 Asians comprised 0.8% of the U.S. labor force but 1.7% of postsecondary teachers. They also accounted for 1.1% of professionals. In 1980 Asians were 1.6% of the labor force, 2.6% of all professionals and 3.6% of college and university teachers.

When educational attainment is taken into consideration, adjusting the shortage of Asian-American teachers may be more realistic in the short run than adjusting that of blacks and Hispanics (See Table 5 and Figures 1-2). One of seven Hispanic college graduates is a teacher. This number is almost identical with that for whites. For blacks the number is much higher. One of four black college graduates has taught in elementary and secondary schools. For black females the number rises to one of three. Thus black female college graduates are more likely to be in teaching than any other gender, racial and ethnic group. Table 5 shows that the pool for potential teacher candidates among blacks and Hispanics is already exhausted, and the outlook for future recruitment is bleak. Teaching, traditionally, has been the major occupation of blacks who achieve a college education and professional status. In 1960, teaching at the elementary and secondary levels accounted for more than 42% of black college graduates, and over 64% of black female college graduates were teachers (U.S. Bureau of Census, 1963, 1964). The decline since then can be partly attributed to increasing opportunities in other professions. Opportunities for minorities and females to obtain jobs with better pay, more opportunities for advancement, and better working conditions have multiplied. Black and Hispanic college graduates are no

longer so restricted to teaching. Indeed, elementary and secondary teaching already attracts a disproportionate share of black and Hispanic college graduates (see Figures 1-2). Further increases in number will require increases in the numbers graduating from high school and going on to college.

For Asian-Americans, the story is quite different. Of every 10,000 Asian college graduates, only 460 are teachers-- about a third of the number found among whites and a fifth of the number among blacks. At 251 per 10,000 college graduates the proportion of Asian male teachers is the lowest for all groups. Among Asian female college graduates, 732 per 10,000 are teachers, lower than that for any other race-sex group except Asian-American males.

The shortage of Asian teachers is related to the general shortage of immigrant teachers in the U.S. Census data for 1970 and 1980 show that elementary and secondary teachers are fewer among immigrants than are college teachers and other professionals. Not only were teachers less likely to be immigrants than students, they were also less likely to move from place to place within the United States (Rong, 1988).

The shortage of Asian teachers is correlated to the general shortage of immigrant teachers in the U.S.

Table 6 shows that first and second generation immigrants comprised about 20% of the total labor force in 1980 but only 15% of elementary and secondary teachers. The disparity is greater for Asian-Americans. Eighty-three percent of Asian-Americans in the labor force are first or second generation immigrants as compared with 65% of Asian-American teachers. Second generation immigrants are the most suitable candidates for bilingual

and bicultural teachers and could be the cultural and language bridge so badly needed by Asian-American students. It is particularly unfortunate that so few second generation Asian-Americans enter teaching. About 30% of Asian American are second-generation immigrants but only 17% of the Asian-American teachers are in that category.

Causes of the Shortage of Asian American Teachers

Reasons for the shortage of minority teachers include a complexity of economic, demographic, social, psychological, and educational factors. For Asian-Americans the educational and economic factor are probably less important than other factors. The number of Asians going to college and graduating is much higher than the norm for the whole population. The average income for Asian Americans is also much higher (with the exception of the Vietnamese) than that of the average American (Lee & Rong, 1988).

The shortage of black and Hispanic teachers results primarily from the shortage of college graduates. The low educational attainment of Hispanics and blacks limits the pool of qualified candidates. As indicated in Table 4 the percentage of teachers with who are not college graduates is highest among Hispanics. Education attainment is not a factor in the underrepresentation of Asian-American teachers. Asian-Americans, aged 25-40 are more likely to be college graduates than other racial groups, and if they become teachers are more likely to have advanced degrees. Table 4 shows that over 55% of Asian female teachers had some graduate schooling as compared with 42% of white teachers, 39% of black teachers, and 34% of Hispanic teachers. The educational attainment of Asian male teachers is slightly less than for white teachers, but far above that of the other two ethnic groups.

The superior education of Asian teachers is merely one aspect of the high educational attainment of the entire Asian population. Table 4 shows that Asian males are the best educated race-sex group and Asian females are next. Forty percent of Asian males aged 25 and over and 28% of Asian females are college graduates as compared with 21% of white males and 13% of white females. Twelve percent of all doctorates in America during 1985-1986 conferred to Asian Americans (U.S. Dept. of Education, 1988).

The reasons why specific minorities concentrate in some occupations and are lacking in others are complex. Language problems and professional standards narrow the range of occupations for minorities, and discrimination in labor market further reduces choice(Cheng, 1984). Several well conducted studies report that well qualified, American educated Asian immigrants face bleak employment opportunities compared to immigrants from the Western hemisphere and the native born majority (Niedert & Farley, 1985 ; Parlin, 1976).

Four variables are of particular importance in explaining the shortage of Asians in precollege teaching: cultural and language barriers, occupational orientation, immigration status, and racial discrimination.

Reubens (1983) notes that many immigrant and minority youths face identity problems from pressures arising from cultural or language differences, and as a consequence face distinctive psychological hazards.

Lack of English proficiency discourages Asian-Americans, more than half of whom are foreign born, from entering teaching. Hsia (1988) maintains that not all Asian Americans are all-around high achievers. About one-quarter of the Asian-Americans are hampered by limited communication skills. Greene (1987) reported that many of the negative experiences of Asians center on

the language gap. Because they speak with an accent so they feel forever distanced from American life, including that of the university. Asian students not born or raised in the United states have enough difficulties with the English language to preclude their taking liberal-arts classes that require a great deal of writing. It is not unusual to hear that humanities professors discourage Asian youths from enrolling or are unwilling to offer them extra assistance. Lack of language proficiency leads Asians to concentrate on science and technology where they have a better chance to compete with natives. With the support of their families, they compensate for their relatively underdeveloped verbal skills by concentrating on studies that require mastery of symbolic logic rather than linguistic fluency (Wong, D, 1985).

Education majors are particularly difficult for nonnative speakers. Rundall & Hernandez (1986) report that many of the credentials courses for teachers focus on writing skills. The English requirement for the state CBEST (California Basic Educational Skills Test) exam is difficult even for American native students. There is obviously a problems for a ethnic group with a high proportion of first generation immigrants to become teachers if English is the only important standard for selecting future teachers.

Undoubtedly, proficiency in English is important for success in almost every career in this country. However, it is not the only factor in good teaching and can be improved by individual effort and professional help. Wong,D. (1985), concluded that for many Asian students, the quest for academic achievement is supported not just by linguistic competence, but by other important variables. Savigon (1983) argues that language proficiency is only one of the variables that eventually determine immigrants' academic

achievement and success. Other variables like family support, self pride, persistence, previous experience, and zeal for work also count heavily.

Parents' expectations, teacher-student relationships, and teachers' expectations of students are quite different in Asia cultures and in the United States. Asian Americans who enter teaching may become discouraged because of cultural differences in regard to discipline, teaching methodology, and administrative style. Unfortunately, many school administrators may have little tolerance toward the cultural and value variety of minority teachers, particularly immigrant teachers (Carter & Segura, 1979).

Wimpelberg and King (1983) maintain that people make career choices on the basis of alternatives open to them. The status attached to the position and possibilities for career mobility are often more compelling factors than salary. In this respect teaching is hardly viewed as a good return to educational investment. Teachers do not enjoy high status and respect either in the community or in the school itself. Darling-Hammond (1984) says that teachers are increasingly viewed as bureaucratic functionaries rather than as practicing professionals, and moreover, the frequent media reports of violence and discipline problems in the schools and the low academic achievement of students contributes to the low esteem in which the profession of teaching is currently held.

One reason for the concentration of Asians in science and mathematics related occupations is that those occupations pay higher. Perhaps more important is that their mathematical skills give them greater choice within these occupations. Asian children have traditionally done well in mathematics and have more training in the natural sciences than other

children. High educational attainment and achievement in science and mathematics help Asian college graduates obtain jobs with higher pay and greater prestige than teaching.

Many scholars,such as Campbell (1984) and Hisa (1985), maintain that Asian children have traditionally done well in mathematics related subjects and have more training in hard science than other ethnic groups. Data from the U.S.Department of Education (1982, 1985, 1986 & 1987) also support the view that in fact, Asian children do better than children of other ethnic groups in almost all subjects, but it is in mathematics and the natural sciences, that Asian children especially shine. Asian students attain excellence in mathematics and science to a much higher degree than children of other ethnic groups. Asian children also have more training in computers than any other race or ethnic group (U.S. Department of Education, 1988).

High educational attainment and competence in science and mathematics help Asian college graduates to enter "traditionally male dominated occupations", that is such jobs or specialties as engineer, architect, computer scientist, natural scientist, physician, lawyer and judge. In those jobs, the sex ratio is high as are income and prestige. 1980 census data show that 77% of Asian male professionals with four or more years of college are in "traditionally male dominated occupations" as against 58% of whites, 57% of Hispanics, and 39% of black professionals (See Table 7).

Historically American females have been twice as likely as males to teach at elementary and secondary levels (Feistritzer, 1983). However, this is probably not true for Asian female college graduates who are less likely to become teachers than male college graduates in any sex-ethnic groups except Asian males. Against the conventional wisdom and stereotype, Asian

females do very well in male dominated fields. Occupational data show that more Asian females become scientists, engineers, and mathematicians that their Caucasian counterparts. In 1980 Asian-American women were 3 times more likely to be physicists and astronomers, biological and life scientists, and medical scientists than white females. They were 6 times as likely to be chemists and 10 times as likely to be physicians as would have be predicted from the total number of Asian-American women in the labor force(Hisa, 1985).

This occupational trend is solidly established for Asian American females in secondary schools. Campbell & Connolly (1985) found that equal numbers of Asian females and males select advanced science and mathematics courses, and do equally well in national contests. Peng(1985) has shown that Asian-American females enter the engineering profession at the same rate as males. In a study of the New York region's Westinghouse winners from 1975 to 1983, Connolly & Primavera(1983) report that among young winners 27% of the Caucasians were female, but among the Asians the proportion was 46%.

Campbell and Connolly (1987) attributes Asian women's occupational orientation to differences in the socialization of Asian and Caucasian female teens. American young women are commonly prevented from entering technical-scientific fields because of math deficiencies. This explanation has been called "the differential course-work hypothesis" (Casserly, 1980; Fennema, 1980; and Fox & Cohn, 1980). Campbell and Connolly found that Asian females do not follow the white female pattern. They read more technical books and knew more computer language than either sex of Caucasians and than Asian males as well.

Peer pressure is an important factor in the socialization of young people. Campbell found that Asian males had very few negative stereotypes of the gifted young women in their classes. However, Caucasian males reported many negative perceptions of the gifted females. This means that Asian females did not experience the same negative peer pressures from their male counterparts and were therefore freer to develop their interests in science. Parents' expectations also have an important impact on children's career decision. Among Caucasians, parents stress technical careers for the males but not for the females. Among Asian, parents' expectations were the same for boys and girls. Asian families placed such a high premium on education that females were encouraged to explore any talent they had.

The difference of socialization between Caucasian females and Asian females probably explains why Asian females so high a percentage entering "traditionally male dominated occupations". More than 29% of Asian female professionals are in traditionally male dominated occupations as compared to 12% of white, 8% of black, and 13% of Hispanic professional females (See Table 7).

Family considerations are always influential for Asian youths. Asian American parents not only want higher education, they are willing to make sacrifices for their children to obtain the best. They bear greater psychological as well as economic costs so that the children remain in school to college graduation and beyond (Hisa, 1988). In return, the children are more likely to take their parents' advice in career decision. Incentives for Asian Americans parents to invest in education go far beyond the expectation of fair monetary returns.

Unfortunately, a widely held belief is that the contemporary teaching pool is largely comprised of less academically able and less intellectually competitive professionals (Hanes & Hanes 1987). Teachers in general have been held in a social position of mixed status. Rex & Tomlinson (1979) report that low status is accorded to teaching by Asian communities. This accords with research findings in the mid-1970s, when, of a sample of 305 Asian parents, none aspired for their children to be teachers.

The opportunity for advancement is important in attracting minority youths into a particular occupation. Jensen and Abeyta (1987) maintain that racism directed against the "middleman" group is common in the economic realm. Although Asian-Americans attained higher education, employment, and income levels than other nonwhites, they were often locked into middle management ranks, faced de facto segregation, and had problems gaining promotions in government and industry. This also holds when Asian-American teachers seek administrative jobs. Like female and other minority teachers, Asian-American teachers are blocked from advancement by gender and race barriers. Though broad-based studies on minority principals are scarce, statistics on the number of Asian- American and other minority school administrators reflect serious problems of underrepresentation in higher status positions. In 1979, there are only 0.3% of U.S. Elementary and Secondary principle were Asian Americans (American Association of School Administrators, 1985).

Job information is very important to young people. Reubens (1983) maintains that immigrants and minority youths are likely to have: 1) less knowledge about occupations; 2) a more restricted view of the occupations potentially open to them; 3) fewer role models employed in a wide range of

occupations; and 4) fewer personal contacts to inform them about entering such occupations than youths from the majority culture. Compared with white professionals, Asian-Americans are limited to a relatively narrow range of jobs. For an Asian youth who like to become a teacher, there may be no such information from parents and community and no role models to consult. Teaching at precollege levels is viewed by Asian youths as an occupation dominated by whites and are therefore discouraged from preparing for it.

Racial discrimination strongly affects choice of occupation among Asian-Americans. Experience tells them that discrimination may be open or violent (Rose, 1985) but that subtle discrimination is even more restrictive (Greene, 1987; Heikinheimo & Shute, 1986). Children experiences are frequently determinants of later career decisions. Furthermore, many Asians complain that academic success is followed by occupational disappointment (Oxnam, 1986). They are often bypassed for the top jobs. Hassan (1987) and Wei (1986) reported that a large percentage of Asian-Americans opt for technical career choices in order to meet with the least discrimination and subjectiveness.

The "middleman" minority may found themselves serving as a buffer between the white elites and the blacks and other minorities who were on the lowest rungs of American society. They also served as a convenient scapegoat in times of crisis. They preserved the stability of a social system by serving as objects to draw off frustration and aggression as exemplified by the interrment of Japanese-Americans during World War II (Jensen & Abeyta, 1987).

Asian parents may consider a technical position to be better for their offspring not only because they will face less discrimination but also

because less emphasis will be placed on verbal skills or assimilation to western ways. Taking jobs which require little participation in political and social life becomes a way of avoiding racial conflicts.

Finally, all of these--better education, technical skills, mathematical and scientific abilities, fear of job discrimination and racial conflict--may not fully explain why Asians were so little represented in the teaching occupation. The 1980 Census reveals that although Asian Americans have the highest percentage of females in male dominated occupations, a very high proportion are still working in traditional female professions. For example, 42% of Asian female college graduates who were professionals were working as nurses, as compared with 22% of white, 23% of Hispanic, and 19% of black women. In 1979 mean annual earnings for full-time Asian female college graduates working as full-time nurses was $17,007. For teachers it was $13,788 respectively (U.S. Bureau of Census, 1983).

It is probable that other reasons than money prevent Asian women from entering teaching. One is immigration status. The registered nurse is listed as a specialty in short supply by the Department of Labor so aliens with this specialty can easily obtain permanent residency. Engineering, computer science, statistics, and many areas of natural science have also been occupations that Asian women were encouraged to enter. Thus, the shortage of Asian teachers is partly due to rigid restrictions for permanent residence and citizenship.

Recommendations

A variety of proposals for attracting minority students to teaching have been tried or suggested, but creative attempts to implement them are not now on the agenda (Wimpelberg & King, 1983). The continued decline in

the proportion of Asian as well as other minority teachers proves that none of the traditional approaches is likely to address the basic problem of attracting highly competent people in sufficient numbers to significantly alleviate the problem.

Less conventional policies should be adopted. Different approaches must be made to different groups. It is evident from this paper that different approaches must be made to different minority groups. For each minority group the pattern of shortage is different and each minority has unique characteristics, and unique relationships with the community though they do share many common disadvantages.

A general improvement of the economic and social status of teachers will definitely promote the entry of Asian-Americans into teaching. Besides increases in salary and prestige, incentives for teachers and principals to acquire the skills and knowledge to teach minority students are needed. Effectiveness in foreign languages and familiarity with various culture and customs also deserve additional pay.

It is also important to develop children's interest in teaching in early stage. Asian youths who have been identified as particularly interested or able in science or math teaching must be encouraged to enter the teaching profession while still in high school. As pointed out by Rundall & Hernandez (1986), those who have worked with immigrant populations know that first generation immigrants speak the native language fluently but their English tends to be broken. The second generation speaks perfect English and broken language of the old country. The third generation speaks only English. The long-term key to resolve the shortage of Asian-American teachers rests with the native-born children of immigrants. Unfortunately,

this group of Asian-Americans has shown little inclination to enter the teaching profession.

Colleges of Education should develop differential strategies for the recruitment of minority students. Consistent with contemporary marketing theory, the college should encourage state and federal legislators to develop incentive programs that will encourage minority students to enroll in teacher education programs. We must remember that many Asian-American students are from middle or low income families, and could qualify for some kinds of grants. However, Peng (1985) has shown that Asian-American students are less likely than other students to receive any type of grants. Also, the percentage of Asian-American students receiving any type of loan was lower than that for Hispanic, black, or white students. Whether Asian students electing education majors receive adequate assistance should be studied, and policies for assisting Asian students interested adopted.

Kortokrax-Clark (1987) argue that the colleges of education and education departments should increase the number of qualified minority professionals on their faculties and staff. Such an increase would provide both minority and majority students with more diverse role models. It would also provide minority students with minority mentors. Although there is no shortage of Asian- American faculty in most departments, they are definitely underrepresented in education (American Association of Colleges for Teacher Education, 1987). Asian-American students need to see minority role models in positions of authority and respect and they need help and encouragement from such faculty members to help them through the years of training.

One largely ignored reservoir of teacher talent can also be the growing number of teachers in other countries and foreign students who receive degrees in education in the United States. As argued by Wolff & Glase (1986), America imports just about everything else from abroad-(including computerists, engineers, scientists, mathematicians and statisticians), why not teaching talent as well. Teachers may be admitted under an H-1 visa, which covers "temporary workers of distinguished merit and ability". Rong (1988) in her study suggest that it will be easier to hire foreign students because 350,000 are in American universities. More than 60% come form Asia and more than half of them will receive masters or higher degrees. Forty percent of these students are in science or mathematics as compared with only 17% of total students. More than one third of these Asian foreign students come from the countries with English as the official language. Foreign students with degrees from American universities are a potential pool of elementary and secondary school teachers, particularly bilingual teachers or teachers of science and mathematics. California and New York City have already hired alien teachers and some other states are now considering the possibility (World Daily, 1987). Length of residence in the United States and ability in the English language should be requirements for employment.

The accelerated decline of minority teachers in elementary and secondary schools is becoming a national disgrace. Social factors which affect the preparation for and entry into teaching of immigrant and minority youth includes the nation's perspective on egalitarianism, cultural pluralism, racism, sexism, and stratification. Reburens (1983), with regard to the United States, is particularly concerned with openly prejudicial

attitudes and practices which contrasts with the denial of ethnic and racial differences in the melting pot perspective. Keeping a heterogeneous teaching force is an important way to raise children's consciousness of cultural sensitivity and diversity.

Zimpher (1987) reports on a national survey of secondary teacher education methods students, 90% of whom were white. When asked about preferred teaching situations, the majority said they wished to teach middle income students of average or superior abilities. They expressed little interest in teaching the poor or student with below average abilities.

We are now facing a marked undersupply of teachers, especially teachers of science, mathematics, Bilinguistics and biculture, and many of our employed teachers are unable or unwilling to take on the arduous tasks of dealing with minority students. However, able and enthusiastic candidates for such jobs are frequently unable to obtain them because of prejudice or lack of understanding on the part of local authorities. The problems of minority candidates are frequently exaggerated and their potentials are underestimated. We basically agree with Cole (1986), Zimpher and Yessayan (1987), and Irvine (1988) that we must reconsider selection criteria, not to lower performance standards, but as a way of enhancing selection by finding and preparing teachers who can best fit into our urban schools. There are many aspects of quality we expect from teachers other than the ability to pass a single test. The recruitment of Asian-American teachers will become much easier if we permit more flexibility as to language requirements and citizenship restrictions. Teachers training program in college of education and in-service training should be available to help Asian teachers improve their English. Therefore we can get more academically strong candidates who

are enthusiastic and productive. The schools will not only benefit from their scientific talents but should profit from increasing the range of teaching techniques and increased perceptions of the values of education. Thus Wang,S (1985) argues that a touch of Asian communal and cooperative spirit would be a useful offset for the present Europe-oriented, individualistic, competitive curricula.

Asian children are doing well in U.S. schools but they could do even better if their cultural and linguistic needs were met. Hsia (1988) argued that the drive for excellence, particularly notable among Asian immigrant youth, may be blunted or deflected if they must settle for second best. The loss will not only be to individuals, but will be felt by a nation that is striving to maintain its ever narrowing margin in science and technology.

Table 1.
Population by Labor Force Status 16 and Over, Occupation, Age and Race or Ethnic Group: U.S. 1970 - 1987.

	Percent			
	White	Black	Hispanic	Asian
1970				
Labor force 16 & Over	85.4 %	9.6 %	3.8 %	0.8 %
Professionals	91.1 %	5.4 %	1.9 %	1.1 %
Teacher, Postsecondary	92.8 %	3.3 %	1.7 %	1.7 %
Teacher, Elementary & Secondary	89.0 %	8.1 %	2.2 %	0.6 %
1980				
Labor force 16 & Over	81.7 %	10.6 %	5.6 %	1.6 %
Professionals	86.4 %	6.9 %	2.9 %	2.6 %
Teacher, Postsecondary	90.4 %	4.1 %	1.6 %	3.6 %
Population Ages 3-17 Years Old	76.1 %	14.1 %	7.7 %	1.7 %
Teacher, Elementary & Secondary	85.1 %	9.7 %	2.8 %	0.9 %
1987*				
Population Ages 3-17 Years Old	71.0 %	15.5 %	10.0 %	2.9 %
1986**				
Teacher, Elementary & Secondary	89.6 %	6.9%	1.9 %	0.9 %

Sources: U.S. Bureau of Census, (1973). Occupational Characteristics, Table 34, and Table 39; U.S. Bureau of Census, (1983). General Social and Economic Characteristics, Table 125 & Table 168. Occupation by Industry, Table 1; U.S. Department of Education. (1987).Digest of Education Statistics, 1987, Table 138.

* Data for 1987 from Current population Reports, Series P-25, No.1022, U.S. Bureau of Census, March 1988; Population of Hispanic and Asian were Adjusted by 1980 Census population and Digest of Educational Statistics, 1988, Table 37.

** Data for Teachers of 1986 from Status of the American Public School Teacher, 1985-1986, National Education Association, 1987.

Note. Percentages do not add to 100 because groups other than white, black, Hispanic and Asian are not included and because of rounding.

Table 2.
Degrees Conferred by Institutions of Higher Education, by Race or Ethnicity: U.S. 1984-1985.

	White	Black	Hispanic	Asian	American Indian	Nonresident Alien
Degrees all fields	83.8%	5.7%	2.6%	2.7%	0.4%	4.8%
Degrees in Education	85.8%	6.9%	3.1%	1.0%	0.6%	2.7%
Bachelor: All fields	85.3%	5.9%	2.7%	2.6%	0.4%	3.0%
Bachelor: Education	88.3%	6.2%	2.9%	0.9%	0.6%	1.2%
Master: All fields	79.9%	5.0%	2.4%	2.8%	0.4%	9.6%
Master: Education	83.5%	7.7%	3.3%	1.1%	0.6%	3.8%
Doctor: All fields	74.1%	3.6%	2.1%	3.4%	0.4%	16.5%
Doctor: Education	79.8%	7.4%	2.3%	1.2%	0.7%	8.5%

Source: U.S. Department of Education: The Digest of Education, 1988, Tables 182-187.

Table 3.
Enrollment of Higher Education by Ethnic and Racial Group: U.S. 1986.

	White	Black	Hispanic	Asian	American Indian	Nonresident Alien
1980						
Number (in 1000)	9833	1107	472	286	84	305
	81.4%	9.2%	3.9%	2.4%	0.7%	2.4%
1986						
Number (in 1000)	9914	1081	624	448	90	344
	79.3%	8.6%	5.0%	3.6%	0.7%	2.8%

Source: The Chronicle of Higher Education, July 6, 1988, A20.

Table 4.
Educational Attainment of Persons Aged 25 and Over and of Elementary & Secondary Teachers by Race or Ethnicity: U.S., 1980.

	White	Black	Hispanic	Asian
Population aged 25 and Over				
Males				
Less than 5 Year Schooling	2.7 %	10.0 %	15.2 %	4.6 %
High School 4+ *	69.6 %	50.8 %	45.4 %	78.8 %
College 4+	21.3 %	8.4 %	9.4 %	40.4 %
Females				
Less than 5 Year Schooling	2.5 %	6.7 %	15.8 %	7.5 %
High School 4+ *	68.1 %	51.2 %	42.7 %	71.4 %
College 4+	13.3 %	8.3 %	6.0 %	27.7 %
Elementary & Secondary Teachers				
Males				
Less than College	5.8 %	12.0 %	11.7 %	8.7 %
College 1-3 Yrs	8.0 %	14.2 %	15.1 %	11.8 %
College 4 Yrs	24.5 %	30.0 %	22.6 %	17.9 %
College 5+	61.7 %	43.8 %	50.6 %	61.6 %
Females				
less than College	8.2 %	18.5 %	20.7 %	9.2 %
College 1-3	9.4 %	8.8 %	17.4 %	10.1 %
College 4 Yrs	40.0 %	34.2 %	28.2 %	25.3 %
College 5+	42.4 %	38.5 %	33.7 %	55.4 %

Source: U.S. Bureau of Census. (1983). General Social and Economic Characteristics, United States Summary 1-163, Table 166, and Earnings by Occupation and Education, Table 6.
*Including Persons with schooling of 12 years or above.

Table 5
Number of Elementary & Secondary Teachers per 10,000 College Graduate ages 25 Years and Over, by Race, Ethnicity and Sex: U.S. 1980.

	Total	White	Black	Hispanic	Asian
Both Sexes	1371	1348	2388	1277	460
Male	753	749	1205	790	251
Female	2228	2205	3347	1982	732

Source:U.S Bureau of Census. (1983). Earnings by Occupation and Education, Table 3; General Social and Economic Characteristics, United States Summary 1-63, Table 166.

Table 6.
Total Labor Force Aged 25 and Over, and U.S Elementary and Secondary Teachers by Nativity, Parentage, Race or Ethnicity:U.S. 1980 .

	Total	White	Black	Hispanic	Asian
1980					
Native Born of Native Parentage					
Labor Force	82 %	84 %	97 %	37 %	17 %
Teachers	86 %	87 %	97 %	38 %	35 %
Native Born of Foreign or Mixed Parentage					
Labor Force	12 %	12 %	2 %	29 %	29 %
Teachers	10 %	10 %	2 %	20 %	17 %
Foreign Born					
Labor Force	6 %	4 %	1 %	34 %	54 %
Teachers	4 %	3 %	1 %	42 %	48 %

Source: U.S. Bureau of Census. (1981). Current Population Survey: Public Use Tape File, (National sample of 160,000 People).

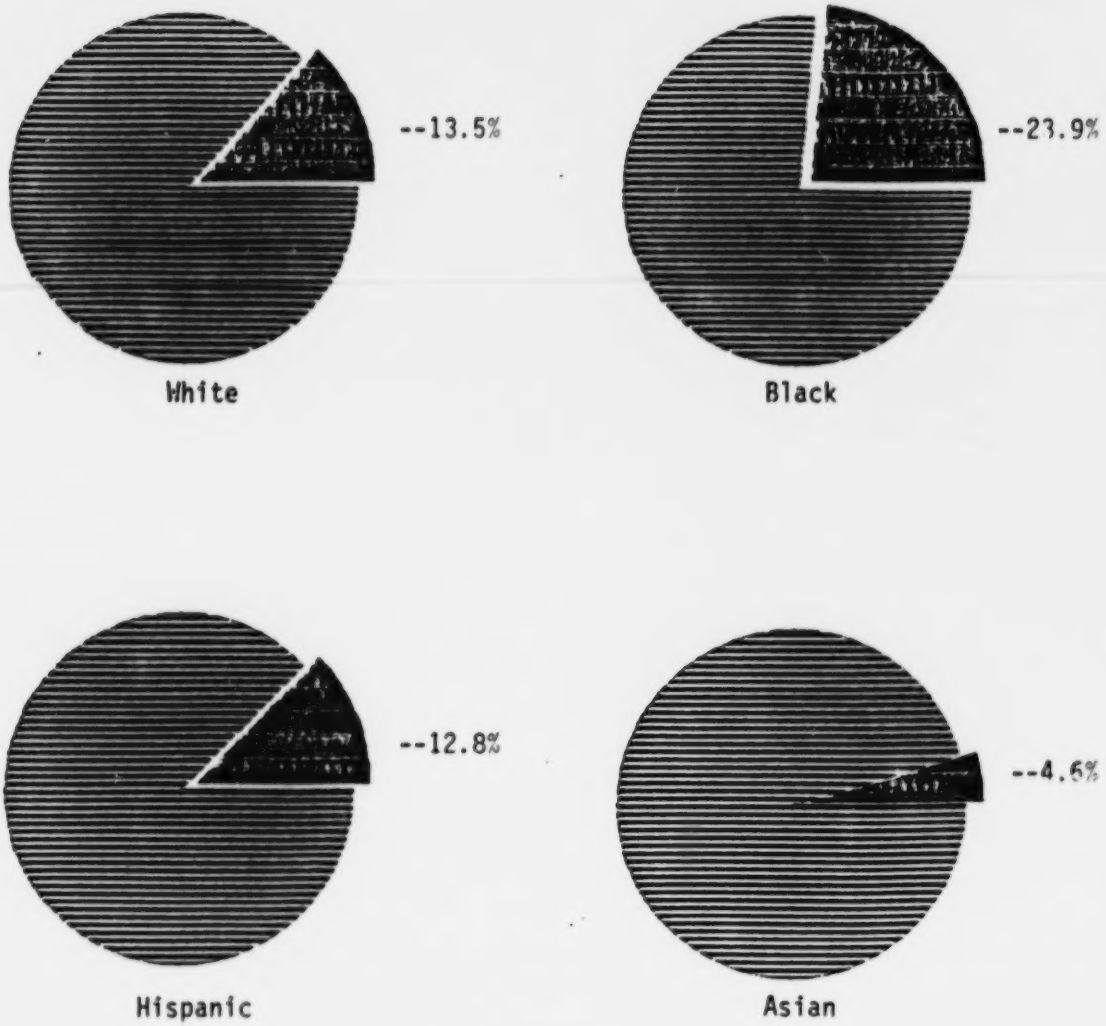
Table 7.
Percent of Persons Aged 18 and Over in Traditionally Male Dominated Occupations Among the Professionals with 4 or More Years College Education by Race or Ethnicity and Sex: U.S., 1980.

	Total	White	Black	Hispanic	Asian
Males					
In Traditionally Male Dominated Occupations*	58.3 %	58.4 %	39.2 %	57.4 %	77.1 %
Females					
In Traditionally Male Dominated Occupations*	12.2 %	11.8 %	8.4 %	13.1 %	29.4 %

Source: U.S. Bureau of Census, (1983). Earnings by Occupation and Education, Table 3.
* Traditional Male dominated Occupations include Engineers, Architects, and Surveyors; Mathematical and Computer Scientists; Natural Scientists, Health Diagnosing Occupations; Lawyers and Judges. Sex Ratio in these occupations is higher than 4 males per female.

Figure 1.

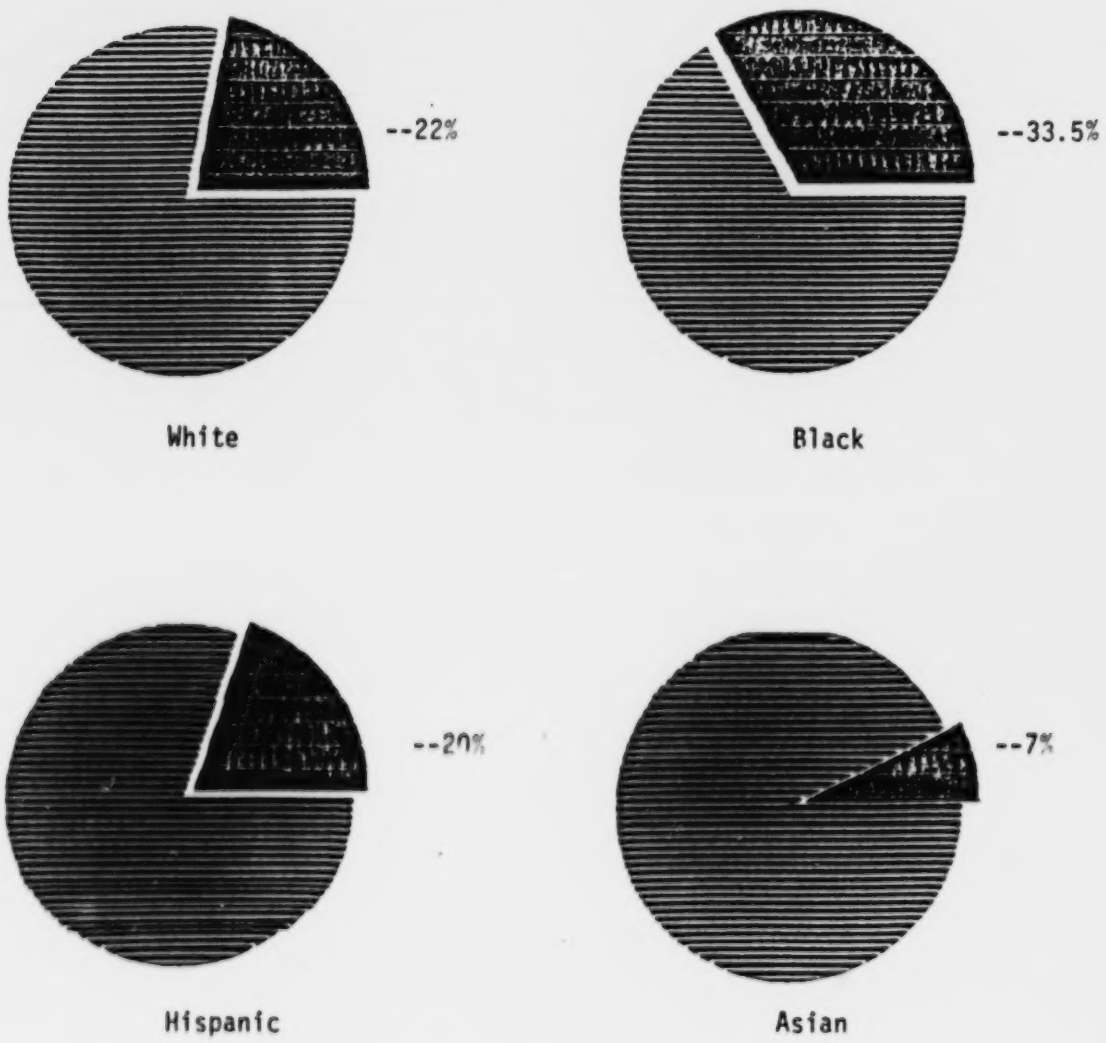
Percent of Elementary and Secondary Teachers Among College Graduates Aged 25 and Over by Race and Ethnic Group: U.S., 1980.



Source: Earnings by Occupation and Education, Table 3: General Social and Economic Characteristics, United States Summary 1-63, Table 166. U.S. Bureau of Census, (1983).

Figure 2.

Percent of Elementary and Secondary Teachers Among Female College Graduates Aged 25 and Over by Race and Ethnic Group: U.S., 1980.



Source: Earning by Occupation and Education, Table 3; General Social and Economic Characteristics, United States Summary 1-63, Table 166, U.S. Bureau of Census, (1983).

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